B.11 STORM DRAIN INSERTS

DESCRIPTION

Storm drain inserts can be a variety of devices that are used in storm drain conveyance systems to reduce pollutant loadings in stormwater runoff. Most storm drain inserts reduce oil and grease, debris, and suspended solids through gravity, centrifugal force, or other methods. BMPs such as these can be particularly useful in areas susceptible to spills of petroleum products, such as gas stations. Figures 1 and 2 illustrate one of many different types of storm drain inserts.

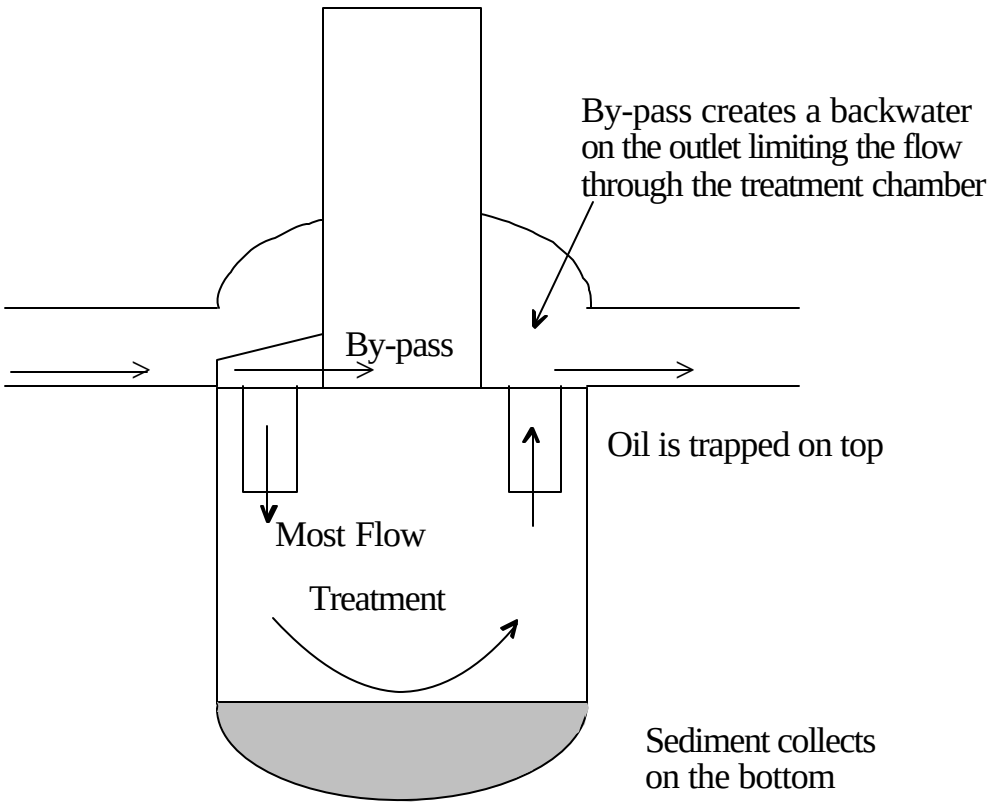

Figure 1. Typical configuration (side view).

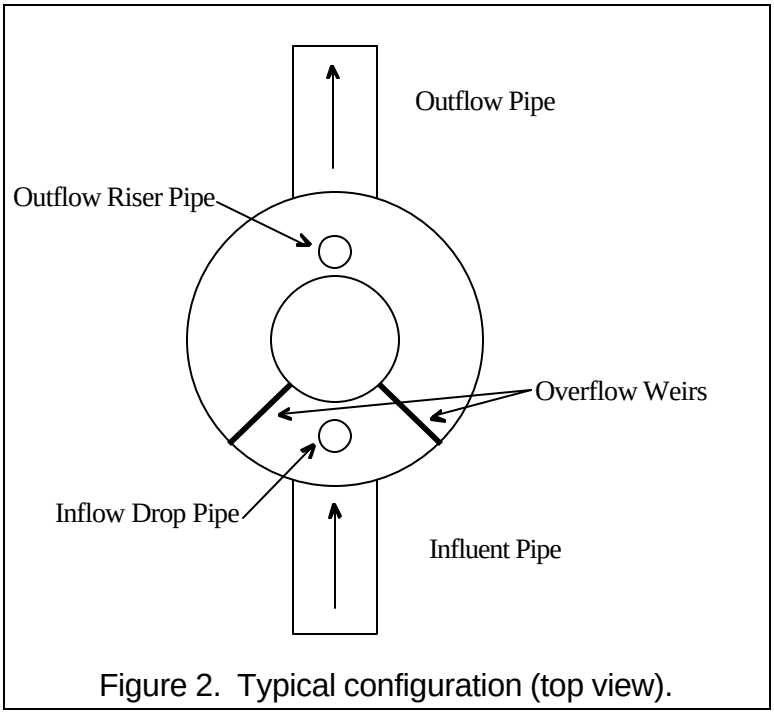

Figure 2. Typical configuration (top view).

Trapped sediments and floatable oils must be pumped out regularly to maintain the effectiveness of the units.

ADVANTAGES

1. Low installation costs.
2. Prefabricated for different standard storm drain designs.
3. Require minimal space to install.

LIMITATIONS

1. Some devices may be vulnerable to accumulated sediments being resuspended during heavy storms.
2. Can only handle limited amounts of sediment and debris.
3. Maintenance and inspection of storm drain inserts are required before and after each rainfall event.
4. High maintenance costs.
5. Hydraulic losses.

DESIGN CRITERIA

1. Calculate the flow rate or volume of stormwater to be mitigated by the storm drain insert using the Los Angeles County Department of Public Works *Method for Calculating Standard Urban Stormwater Mitigation Plan (SUSMP) Flow Rates and Volumes Based on 0.75-inches of Rainfall*.

REFERENCES

1. Center for Watershed Protection, Environmental Quality Resources and Loiederman Associates. 1997. *Maryland Stormwater Design Manual*. Prepared for: Maryland Department of the Environment. Baltimore, MD.

2. DEQ Storm Water Management Guidelines, Department of Environmental Quality, State of Oregon. http://waterquality.deq.state.or.us/wq/groundwa/swmgmtguide.htm

3. K. H. Lichten, June 1997. *Compilation of New Development Stormwater Treatment Controls in the San Francisco Bay Area*, Bay Area Stormwater Management Agencies Association, San Francisco, CA.

The following is a list of known locations where a Storm Drain Insert device was installed. The design of the installed device in each location may vary from what is recommended in this SUSMP due to its specific circumstances. Los Angeles County does not endorse nor warranty any design used in the locations herein. Each individual case may require that the design be tailored to perform properly.

Installed Location (City/Address)	Brand/Manufacturer	Owner/Client
I-210/Orcas Ave.	Not available	Caltrans
I-210/Filmore St.	Not available	Caltrans
Marina Del Rey: 13477 Fiji Way, L.A.	CDS (Continuous Deflective Separation Device)	Los Angeles County Beaches & Harbor
Santa Monica [1]	CDS Device	Los Angeles County Dept. of Public Works
Santa Monica	CDS Device	City of Santa Monica
Santa Clarita	CDS Device	City of Santa Clarita
Calabasas	CDS Device	City of Calabasas

[1] Not constructed yet.